



MEMORANDUM

**To: PLANNING COMMISSION FOR MEETING AUGUST 11, 2009
SOUTH CO. JT. PLANNING ADVISORY COMMITTEE FOR AUGUST 13TH
INTERESTED PERSONS AND AGENCIES**

From: COMMUNITY DEVELOPMENT DEPARTMENT

**Subject: REVIEW OF CITY OF MORGAN HILL PROPOSED CIRCULATION
ELEMENT UPDATE AND DRAFT EIR**

PURPOSE OF THE MEMORANDUM AND PUBLIC MEETINGS

Review Citywide Transportation Studies and Proposed Circulation Element Update. The key purpose of this memorandum and the meetings scheduled for August and early September is for Planning Commissioners, the South County Joint Policy Advisory Committee and other interested persons/agencies to become familiar with the content of the citywide transportation studies and Morgan Hill City Council directions which form the basis of the proposed General Plan Amendment Circulation Element Update. The proposed amendment reflects changes to the planned circulation network and to the city's Level of Service Policy, along with other proposed new goals and policies related to smart growth principles and a multi-modal transportation system, providing for balanced pedestrian, bicycle and transit along with vehicular facilities.

Draft EIR Findings and Process for Considering Comments. The findings of the Draft Environmental Impact Report (EIR) will also be summarized; the 45-day Draft EIR public comment period runs from August 4th through September 17th. A Morgan Hill Planning Commission meeting is scheduled for September 1st to accept verbal comments on the Draft EIR from Planning Commissioners and the public. Written comments will also be accepted until September 17th, which will be responded to in the Final EIR Responses to Comments Document.

Other Community Meetings regarding Circulation Element Update & Transportation Studies. Since the transportation studies and proposed Circulation Element Update involve decisions about citywide transportation network facilities and Level of Service (LOS) policies, three community meetings will be held to allow for members of the public to become informed so that interested persons may offer informed comments on the Draft EIR and may become informed participants at future public hearings before the Planning Commission and City Council. Community meetings are scheduled for:

Saturday, August 29 th	9:30 AM – 11:30 AM	Community & Cultural Center at 17000 Monterey Road
Monday, August 31 st	7:00 PM – 9:00 PM	Community & Cultural Center at 17000 Monterey Road
Tuesday, September 1 st	7:00 PM for EIR Comments	Planning Commission at City Hall, 17555 Peak Ave
Thursday, September 3 rd	7:00 PM – 9:00 PM	Community & Cultural Center at 17000 Monterey Road

BACKGROUND

One of the mitigation measures associated with certification of the EIR and adoption of the Redevelopment Plan Amendment in November 2006 was a requirement that: *“Approximately every five years, prior to adoption of the Agency’s Implementation Plan, the Agency shall participate in and fund (if funding is needed) completion of a city-wide Transportation Impact Analysis (TIA) in order to provide information appropriate for updates to the City’s and Agency’s schedule for funding and implementing transportation improvements. The Agency shall assist, as feasible, with funding improvements within the Project Area or of primary benefit to the Project Area, so that improvements are constructed in a timely manner that accommodates growth and development”*.

The Morgan Hill Redevelopment Agency has stated that among its top priorities are revitalizing Downtown, and implementing circulation improvements supportive of economic development and elimination of blight in the RDA Project Area. In that certain key transportation improvements are included on the list of projects proposed to be funded with RDA funds, it is desirable to confirm information related to the facilities prior to final design.

Fehr & Peers Contract. In order to implement the mitigation measure, the Redevelopment Agency entered into a contract with Fehr & Peers transportation consultants in August 2007, to (1) develop a new citywide traffic model; (2) review the city’s Level of Service (LOS) Policy [*General Plan Policy 3d*], as well as the city’s Guidelines for Preparation of Transportation Impact Analyses (TIA Guidelines) and other policies such as the CEQA Thresholds of Significance for transportation impacts; and (3) prepare a Transportation Impact Analysis of circulation network amendments, including a Cumulative Analysis that would reflect all proposed circulation and land use General Plan Amendments.

The City Council adopted revised TIA Guidelines on May 28, 2008, and also at that time initiated a General Plan Amendment to propose revision of the LOS Policy to a “tiered” approach that would allow for Level of Service “F” in the downtown area, and LOS “E” at selected locations.

Summary Description of Circulation Element Update. The City Council directed that the Circulation Element Update was to include any refinements of the planned circulation system that the consultants would recommend based on the traffic model results, including the alignments for the Murphy Corridor and Hill Corridor. Earlier Council direction had initiated study of an amendment to not connect San Pedro to Spring, as planned in the existing Circulation Element. On October 22, 2008, in conjunction with a contract amendment for Fehr & Peers, a tentative list of “Model-Results Circulation General Plan Amendments” was provided, based on the first run of the new traffic model. The list was refined after a second run of the model based on a detailed review and refinement of land use projection scenarios for the 2015 and 2030 model years, under both existing GP land uses and proposed GP amended land uses. The model results answered the Council’s question of whether or not a Madrone Parkway Crossing is necessary: it is needed sometime after 2015 but before 2030, with timing largely influenced by the pace of development in the Coyote Valley Research Park area.

The refined list of “Model Results Network Amendments” was then incorporated into the Proposed Circulation Element General Plan Amendment. The City Council also directed that the TIA should also evaluate the following “Additional Possible Circulation General Plan Amendments”, so that information could be developed in the EIR so that the Council could decide in the future whether or not to pursue these amendments:

1. Study a **Project Alternate** that would narrow Monterey Road through Downtown (between Main and Dunne) from the existing 4 lanes, to 2 lanes. *[Note that the Downtown Specific Plan Master EIR also presents information for this **Project Alternate**, and ALSO contains a “Monterey Road Narrowing Design Alternative”, which is a variation of the Project Alternate that would retain 4 lanes between Dunne Avenue and Fifth Street, thus mitigating the impacts to the Dunne Avenue/Monterey Road intersection.]*
2. Study a proposal to NOT close Depot Street at Dunne Avenue and NOT grade-separate Dunne Avenue at the UPRR crossing. *[Alternatives were later identified during the study process, both of which would retain the Dunne grade separation but rather than cul-de-sac Depot Street as currently planned in the existing General Plan, Depot Street remains connected to Dunne. One possibility is to depress the grade of Depot Street to match the new grade of Dunne, and the other alternative is to re-route Depot Street through the CCC parking lot to create a signalized intersection with Church Street.]*
3. Study of alternate alignments for Walnut Grove North Extension, with the “dog legged” route to be the preferred alignment *[but with Alternative Route, No Connection, and Existing GP Alignment also to be studied]*.

Decisions about the above 3 possible amendments will be made as part of the Circulation Element public hearings, and not as part of the Downtown Specific Plan, but for informational purposes the Downtown Master EIR does contain information about the effects of the Monterey Road Narrowing Project Alternate, and about the Proposed LOS Policy Amendment.

Travel Demand Forecasting Model & Future Improvements Study. Morgan Hill decided to develop a new travel demand forecasting (TDF) model or “traffic model” in order to better support its long-range transportation planning efforts, and also to have a better tool for evaluating the effects of future land use development projects and transportation improvement projects. The previous Morgan Hill model was based on the VTA Congestion Management Program (CMP) regional model with TRANPLAN software, which reflected 1997 base year conditions and was not sensitive enough to make it a viable planning tool for local land use and network changes. The City of Morgan Hill desired to use the new traffic model with TransCAD Transportation GIS software, with updated key model inputs such as land use, road network and trip generation parameters, and with the model validated to 2007 conditions.

The Morgan Hill Sphere of Influence was divided into 744 “traffic analysis zones” (TAZs) for the new model; the previous City model had 111 TAZs within the Sphere. In comparison, VTA’s model has 166 TAZs in the Morgan Hill model area with 36 in the Morgan Hill Sphere and the remaining TAZs in Coyote Valley, San Martin and Gilroy. The new Morgan Hill model uses future year land use data from the VTA model for areas outside of the Morgan Hill Sphere. The VTA model reflects ABAG Projections 2003, which was used for the South County Circulation Study (SCCS) and is generally more conservative (greater amount of growth) than the later ABAG Projections, which generates somewhat more conservative results. The 2007 Morgan Hill traffic model, then, is consistent with the VTA model used for the SCCS, with the exceptions of Morgan Hill data and with refinement of the Coyote Valley projection to reflect approximately 9,200 jobs by 2015 and a total of 22,100 jobs by 2030 – which is 20,000 new jobs; but including very limited residential development.

Year 2015 and Year 2030 model scenarios were developed based upon projected land use development and road network improvements that would exist in those years. The Morgan Hill model was then used to analyze the existing General Plan Circulation Element, with respect to the need for, size of, and general timing of planned circulation system improvements in the city, such as for Santa Teresa from

Spring to Hale, the Madrone Crossing, shifting the planned Walnut Grove North Extension to a more westerly connection with Diana, Murphy Corridor and Hill Corridor extensions/widenings.

The “*Morgan Hill Projections 2009*” report by Morgan Hill planning staff documents the methods and assumptions used to develop the land use data and growth projections used in the citywide traffic model developed by Fehr & Peers, which was the basis for a study of transportation network needed to accommodate future Morgan Hill traffic. The modeling and study effort resulted in a variety of recommended Circulation Element Amendments. The Projections report provides a summary of the methods and is an appendix to the Fehr & Peers “*Travel Demand Forecasting Model & Future Improvements Study*”. The Projections report also compares Morgan Hill population, dwelling unit and employment forecasts with those contained in various ABAG Projections documents, as well as with the forecasts used in VTA’s South County Circulation Study (SCCS). A summary of key portions of the Projections report related to the SCCS, ABAG Projections and the VTA model is attached to this memo as Attachment 1.

The results of the modeling are that, except for Tennant between Butterfield and US 101 ramps (which needs to be a 6-lane facility), the number and scope of improvements within the City of Morgan Hill are less than originally identified in the 2001 General Plan Circulation Element. The transportation consultant states that the changes are likely the result of the following factors:

- The recent ABAG regional land use and social demographic data includes different regional development totals than the data set used in the original City of Morgan Hill model developed in Year 2000 during the “dot-com” boom.
- The larger TAZs and less detailed roadway network of the previous Morgan Hill travel demand model does not accurately replicate loading of vehicle trips to the roadway network for minor arterials and collector streets.
- The original City of Morgan Hill model used fewer land use categories and different trip rates and assignment parameters.
- Future forecasts from the original City model (within the larger VTA model) were adjusted based on then-existing traffic volumes (1997 counts) that did not include the widening of US 101 from Cochrane Road in Morgan Hill to SR 85 in San Jose with an HOV and additional mixed-flow lane which was completed in 2003. This would have accounted for the diversion of regional traffic to City of Morgan Hill streets that occurred then, but did not occur when 2007 and 2008 volume counts were conducted.
- The new City model is better validated and calibrated and provides more reasonable traffic growth forecasts based on planned land use. This is also substantiated by the static and dynamic validation tests.

PROJECT DESCRIPTION FOR PROPOSED CIRCULATION ELEMENT UPDATE

The proposed Circulation Element modifies the planned roadway network, amends the LOS Policy, refines other goals and policies consistent with these changes, and adds a **proposed new Goal #9:**

9. *A circulation system based on Smart Growth reflecting a balanced, multi-modal transportation system, especially in Downtown where pedestrian, bicycle and transit facilities will be emphasized along with vehicular facilities.*

The proposed Element emphasizes multi-modal facilities and policies that are more supportive of alternate modes of travel. Examples of a new “2-Lane Arterial Multi-Modal Standard” are attached to this memo as Attachment 2.

The proposed Circulation Element changes the planned widths of several road way facilities for 2030, which is summarized in the following chart of **Circulation Network Amendments**:

TABLE ES-1 SUMMARY OF MODEL-RECOMMENDED ROADWAY NETWORK AMENDMENTS TO THE 2001 GENERAL PLAN CIRCULATION ELEMENT		
Roadway	Current GP Roadway (lanes)	Recommended Roadway (lanes)
1. Hale Ave/Santa Teresa Blvd between Tilton Ave and Spring Ave ¹	4	2
2. Monterey Rd between Watsonville Rd and Middle Ave	6	4
3. Butterfield Blvd between Cochrane Rd and Monterey Rd	6	4
4. Condit Rd between Half Rd and Tennant Ave ²	4	2
5. Murphy Ave to align with St. Louise Dr between Cochrane Rd and Half Rd (St. Louise does not connect with Half Road under Model-Recommended Roadway scenario)	4	None
6. Murphy Ave to align with Mission View between Cochrane Rd and Half Rd (Murphy Ave realigned with Mission View Dr) ³	2	2
7. Murphy Ave between Half Rd and Middle Ave	4	2
8. Hill Rd between Half Rd and Maple Ave ⁴	4	2
9. Extension of Foothill Ave between Barrett Ave and Tennant Ave	2	None
10. Madrone Pkwy between Hale Ave and Monterey Rd ⁵	4	2
11. Cochrane Rd between Mission View Blvd and Peet Rd	4	2
12. Main Ave between Butterfield Blvd and Hill Rd	4	2
13. Dunne Ave between Hale Ave/Santa Teresa Blvd and Del Monte Ave	4	2
14. Edmundson Ave between Sunnyside Ave and Piazza Wy	4	2
15. Tennant Ave between Butterfield Blvd and US 101 SB Ramps	4	6
16. Tennant Ave between Murphy Ave and Hill Rd	4	2
17. Watsonville Rd between Santa Teresa Blvd and La Alameda	4	2
18. Middle Rd between Monterey Rd and Murphy Ave ⁶	4	2
Notes: ¹ Hale Ave/Santa Teresa Blvd between Tilton Ave and Spring Ave would be a two-lane multi-modal arterial by 2030. ² Roadway would remain a two-lane collector. Right-of-way for four lanes would no longer be encouraged as it is in the 2001 General Plan. ³ Mission View Drive between Cochrane Road and Half Road would be a two-lane multi-modal arterial by 2030, but right-of-way would be reserved for a four-lane arterial. ⁴ Roadway would remain a two-lane arterial. Right-of-way for four lanes would no longer be encouraged as it is in the 2001 General Plan. ⁵ A 2-lane grade separated arterial will be needed by 2030. ⁶ The US 101/Middle Road interchange is not included in the Year 2030 model-recommended roadway capacity assumptions. Source: Fehr & Peers, June 2009.		

As can be seen, the new traffic model, which is of higher quality than previous models for the Morgan Hill area, indicates that previous circulation plans incorporated more roadway capacity than needed to serve development that is projected to occur by 2030. The projected 2030 Population of 55,400 for the Morgan Hill jurisdiction in 18,560 housing units, with 23,640 jobs in the “city” and 24,560 jobs in the “sphere”, are somewhat higher numbers than previous modeling for population and housing, and are very similar for jobs. The projections reflect “near buildout” of Morgan Hill west of US 101 by 2030. For lands east of US 101, additional development is projected to occur by 2030, however a significant amount of that area is assumed to develop after 2030. Therefore the results have not occurred due to lower development projections, but more precise modeling as explained earlier in this memo. The “Travel Demand Forecasting Model & Future Improvements Study” prepared by Fehr & Peers provides detailed documentation of the structuring, calibrating, validating and use of the model to generate the model-recommended roadway network for Morgan Hill.

Proposed LOS Policy Amendment

The proposed modifications to the LOS Policy would provide a tiered approach to acceptable LOS standards. The LOS standard for all intersections within the City would be reduced from LOS D+ to LOS D, with two exceptions: 1) LOS F would be allowed for intersections and street segments within the Downtown Core area (i.e., the area bounded by Dunne Avenue, Del Monte, Main Avenue, and Depot Street), and 2) LOS E would be allowed at certain intersections and segments due to their location in the downtown periphery, for freeway ramps and within freeway access zones, or because the intersection provides alternate routes for regional through traffic and widening would encourage regional through traffic on local streets.

The intersections located within the Downtown periphery where LOS E would be allowed include the following:

- Monterey Road and Wright Road
- Monterey Road and Central Avenue (unsignalized)
- Butterfield Boulevard and East Main Avenue
- Butterfield Boulevard and East Dunne Avenue
- Hale/Santa Teresa and West Main Avenue

The freeway ramps and access zones where LOS E would be allowed are defined as the following:

- Cochrane Road Freeway Access Zone – The intersection of Madrone Parkway and Cochrane Road to the intersection of Cochrane Road and Mission View Drive
- Dunne Avenue Freeway Access Zone – The intersection of Walnut Grove and East Dunne Avenue to the intersection of Murphy Road and East Dunne Avenue
- Tennant Avenue Freeway Access Zone – The intersection of Butterfield Boulevard and Tennant Avenue to the intersection of Murphy Road and Tennant Avenue
- Freeway ramps

The intersections that provide alternate routes for regional through traffic and where widening would encourage regional through traffic on local streets, where LOS E would be allowed, include the following:

- Santa Teresa Avenue and West Dunne Avenue
- Cochrane Road and Monterey Road
- Tennant Avenue and Monterey Road
- Watsonville Road/Butterfield Boulevard and Monterey Road
- Madrone Parkway and Monterey Road

POLICY REASONS IN SUPPORT OF LOS POLICY AMENDMENT

Included in the Fehr & Peers consultant services contract was evaluation of the city's existing LOS Policy in the General Plan, and preparation of a recommendation for any modifications. On May 28, 2008 the Morgan Hill City Council considered a policy memo and decided to initiate a General Plan Amendment as recommended by Fehr & Peers and staff, to establish a "Tiered LOS Policy" which would a) change the general standard from "D+" to "D"; b) exempt the downtown and thus allow LOS "F" in the downtown, and c) identify certain facilities where LOS "E" would be considered acceptable. The policy discussion in the Fehr & Peers policy memo noted the following considerations in support of creating the Tiered LOS Policy:

- (1) Santa Clara County has jurisdiction over unincorporated areas and most expressways and generally maintains an LOS D operating standard. Most of the cities and towns within Santa Clara County require LOS D or better for local roadway operations, with the exception of Gilroy which maintains an LOS C standard for all areas west of US 101 and LOS D for roadways east of the freeway. Therefore "D" is more consistent with regional standards.
- (2) According to the VTA's *Congestion Management Program (CMP) 2007* report published in December 2007, the basic LOS standard for CMP facilities including US 101 is LOS E, while the operating goal is LOS D. Local jurisdictions are not required to conform to the LOS D goal.
- (3) Since the policy is set for peak-hour conditions (during the height of the morning and evening commute periods), intersection operations will be better at all other times of the day and on weekends, except potentially near major retail centers and other use that generate their peak vehicle demand on Saturdays and/or Sundays. The benefit of this policy is that the majority of the intersections will not reach design capacity (e.g. LOS D, E or F) and will be able to accommodate added vehicular traffic. Another way to look at this policy is that by applying it on a peak-hour basis, intersections can be oversized for the other 18 to 22 hours of the day.
- (4) Any intersection that exceeds the adopted policy thresholds requires improvements, primarily by adding capacity through new vehicle travel lanes, which can:
 - use up valuable land;
 - be expensive for the City to implement;
 - cause secondary environmental impacts, especially if the widening encroaches onto riparian corridors;
 - require substantial construction costs that can be a detriment to economic development; and/or
 - widen roadway cross sections which worsens conditions for bicycle and pedestrian travel by increasing riders and walkers level of exposure to vehicles.

Therefore it is desirable to not "over improve" roadway facilities based on peak hour use levels, especially in downtown areas desired to be "pedestrian-friendly", and on routes that serve commute traffic where most use of the facilities would be "off-peak".

- (5) The current LOS policy, by limiting congestion, reduces the incentive for Morgan Hill citizens to use non-automobile modes, such as transit, ridesharing, bicycling, and walking. Therefore, one could make the argument that the Existing LOS D+ Policy is actually somewhat in conflict with other General Plan goals and policies in the Circulation and other Elements including:

Circulation

- Goal 1: A balanced, safe, and efficient circulation system for all segments of the community,
- Goal 6: A safe and efficient transit system that reduces congestion by providing viable non-automotive modes of transportation,
- Goal 8: Expanded pedestrian opportunities

Community Development

- Goal 12: A visually attractive urban environment
- Goal 13: A vibrant, identifiable downtown
- Goal 18: Useful, accessible and high-quality park, recreation and trail facilities and programs
- Goal 19: Coordinated urban and school development

Economic Development

- Goal 1: A strong, stable and diverse economic base
- Goal 2: Additional, adequate job opportunities for local residents

Open Space and Conservation

- Goal 8: Preservation of city's historic identity

- (6) The benefit of exempting the Downtown Core area (14 blocks) from the LOS standard, and thus allowing LOS F, is that the downtown can avoid intersection widening and thus maintain minimal intersection pedestrian crossing distances (including use of bulb-outs at corners), can achieve wider sidewalks, and have a more multi-modal- and human-friendly environment.

SUMMARY OF FINDINGS OF TRANSPORTATION IMPACT ANALYSIS (TIA) AND DRAFT ENVIRONMENTAL IMPACT REPORT (EIR) ON ROAD SEGMENTS, SIGNALIZED INTERSECTIONS, AND UNSIGNALIZED INTERSECTIONS

Once the Travel Demand Forecasting Model & Future Improvements Study was complete and the proposed changes to the city's Circulation Element were defined, Fehr & Peers began work on a Transportation Impact Analysis (TIA) and the City hired David J. Powers & Associates to prepare an Environmental Impact Report (EIR) on the proposed General Plan Circulation Element Amendment. The City's Travel Demand Model was run under several Scenarios (described below), so that the TIA could present information related to appropriate comparisons of certain different Scenarios, in order to characterize the nature and significance of project and cumulative impacts.

Impacts of Proposed Project: The significance of the proposed project impacts (the Circulation Element Update with the Model-Recommended Roadway Modifications) is evaluated by comparing operations under the Year 2030 Current General Plan Conditions (Scenario 4) to the Year 2030 Model-Recommended Roadway Conditions (Scenario 5), using the significance criteria in the city's adopted TIA Guidelines and LOS Policies for local streets, and using both VTA CMP and Caltrans significance criteria for US 101.

Cumulative Impacts: The significance of the cumulative impacts is evaluated by comparing Year 2030 Cumulative GPA Conditions (Scenario 8) to Existing Conditions (Scenario 1). Cumulatively considerable impacts are determined by comparing Year 2030 Cumulative GPA Conditions (Scenario 8) to Year 2030 Current General Plan (Scenario 4). [Certain of the below Scenarios 6 and 7 of the below Scenarios were most useful in the TIA prepared for the Downtown Specific Plan Master EIR, which provides information about both the Proposed Specific Plan, which would leave Monterey Avenue at 4 lanes, and the Project Alternate Specific Plan, which would involve a 2-lane Monterey Avenue from Main to Dunne.]

Scenario 1: Existing Conditions

Scenarios 2 & 3: Not Applicable for TIA Purposes - These were scenarios numbered by the consultants that were studied in Travel Demand Forecasting Model & Future Improvements Study

Scenario 4: Year 2030 Current General Plan Conditions - cumulative traffic volumes from projected land use development under the current General Plan, plus roadway improvements based on existing 2001 General Plan Circulation Element; LOS analysis based on Existing LOS Policy and current TIA Guidelines.

Scenario 5: Year 2030 Model-Recommended Roadway Conditions - Year 2030 land use from Scenario 4 (projected land use development by 2030 under current General Plan) plus funded and model-recommended roadway improvements under the *Proposed General Plan Circulation Element*. LOS analysis based on Existing LOS Policy and current TIA Guidelines.

Scenario 5A: Same as Scenario 5 but LOS analysis based on *Proposed Tiered LOS Policy*

Scenario 6: Year 2030 Model-Recommended and Additional General Plan Amendment Roadway Conditions – Year 2030 land use from Scenarios 4 & 5 (projected land use development by 2030 under current General Plan), plus Scenario 5 model-recommended roadway improvements under the Proposed General Plan Circulation Element, but with the *additional City-initiated possible roadway amendments: Narrowing Monterey Road to 2 lanes, removing the Dunne grade separation, shifting Walnut Grove Extension to the west, and not connecting San Pedro to Spring*. LOS analysis based on Existing LOS Policy and current TIA Guidelines.

Scenario 6A: Same as Scenario 6 but LOS analysis based on *Proposed Tiered LOS Policy*

Scenario 7: Year 2030 Cumulative with Model-Recommended Roadway Conditions – Year 2030 cumulative traffic volumes based on projected land use development by 2030, *including land use modifications that would occur under Proposed General Plan Land Use Amendments conditions*, which includes the proposed Downtown Specific Plan and several other land use amendment applications. Roadways are based on Scenario 5 model-recommended roadway improvements under the Proposed General Plan Circulation Element. LOS analysis based on Existing LOS Policy and current TIA Guidelines.

Scenario 7A: Same as Scenario 7 but LOS analysis based on *Proposed Tiered LOS Policy*

Scenario 8: Year 2030 Cumulative with Model-Recommended and General Plan Amendment Roadway Conditions – Land use from Scenario 7, reflecting uses under the Proposed General Plan Land Use Amendments, plus the Scenario 6 model-recommended road network and the *additional City-initiated possible roadway amendments: Narrowing Monterey Road to 2 lanes, removing the Dunne grade separation, shifting Walnut Grove Extension to the west, and not connecting San Pedro to Spring*. LOS analysis based on Existing LOS Policy and current TIA Guidelines.

Scenario 8A: Same as Scenario 8 but LOS analysis based on *Proposed Tiered LOS Policy*

Levels of service for roadway segments and intersections under the defined conditions of each of the relevant Scenarios, as well as the significance of impacts and availability of mitigation measures, is discussed in the following sections of this memorandum.

EXISTING CONDITIONS FALL 2007 (SCENARIO 1)

Level of Service (LOS) analysis for existing conditions shows that all roadway segments were operating at or above LOS D in Fall 2007, which met the city's standard for segments.

Measured against the city's existing LOS D+ standard, two signalized intersections operate at an unacceptable LOS D standard during one or both peak hours under existing (Fall 2007) conditions. It

should be noted that these signalized intersections would both be considered acceptable under the proposed new LOS Policy:

Main Avenue/Monterey Road	(AM “D” and PM “D”)	New Policy would allow “F”
Dunne Avenue/Butterfield Blvd	(PM “D”)	New Policy would allow “E”

CURRENT GENERAL PLAN CONDITIONS 2030 (SCENARIO 4)

The 2001 General Plan Circulation Element describes the planned roadway network, which is also described in the Morgan Hill Travel Demand Forecasting Model & Future Improvements Study. Analysis of this Scenario included all of those planned roadway improvements, except for 1) the extension into the County of Butterfield Blvd from Tennant Avenue to Middle Avenue (Butterfield Extension South and overcrossing the UPRR tracks to connect to Watsonville Road was included); 2) construction of the Middle Avenue/US 101 freeway interchange; and 3) widening of Murphy Avenue from Dunne Avenue to Middle Avenue.

Measured against the existing LOS Policy, none of the roadway segments will operate at an unacceptable level under daily conditions, EXCEPT that Tennant Avenue would fall to LOS F, and it would need to be widened to a 6-lane arterial between Butterfield Blvd and US 101 SB Ramps by 2030 to operate acceptably. This is a feasible improvement and proposed in the new Circulation Element.

For analysis of signalized intersection operations in 2030, roadways were configured to reflect the planned improvements and widening in the 2001 General Plan. Measured against the current LOS D+ standard for signalized intersections, the Main Avenue/Monterey Road intersection would operate at an unacceptable LOS E+ and D, in the AM and PM peaks, respectively. It is not possible to widen this intersection due to existing downtown buildings. The proposed LOS Policy would exempt this intersection and therefore the intersection would operate acceptably under the new Policy.

Analysis of unsignalized intersections in 2030 showed that three intersections would operate below LOS D during both the AM and PM peak hours: Monterey/Central (“F” in both AM and PM peak hours), Monterey/Fourth (“F” in both AM and PM peak hours) and Monterey/Fifth (“E” in AM peak and “F” in PM peak hours). However, the results of peak-hour signal warrant analysis indicate that none of the intersections satisfy the peak hour warrant analysis. Under the city’s adopted Guidelines, a significant impact is defined to occur when an approach (for two-way stop control) or the intersection (for all-way stop control) operates at LOS E or F and the peak hour signal warrant is met or exceeded under “with project” conditions. Therefore, these unsignalized intersection operations would be considered acceptable even under Existing LOS Policy, and would also be acceptable under the Proposed LOS Policy, which would exempt the Monterey/Fourth and Monterey/Fifth intersections from LOS standards and allow F.

MODEL-RECOMMENDED ROADWAY NETWORK CONFIGURATION

The Morgan Hill Travel Demand Model reflects certain roadway modifications also assumed to be constructed by 2030. The “Additional Possible Network Modifications” [*Narrowing Monterey Road to 2 lanes, removing the Dunne grade separation, shifting Walnut Grove Extension to the west, and not connecting San Pedro to Spring*] are NOT incorporated into the base traffic model.

The TIA assumed that the following model-recommended roadway modifications were implemented in Morgan Hill by 2015 (“first phase”):

1. Butterfield Boulevard extended as a 2-lane collector between Madrone Parkway & Cochrane Road
2. Butterfield Boulevard extended as 4-lane arterial between Tennant Avenue & Monterey Road
3. Hale/Santa Teresa Blvd extended as 2-lane Multi-Modal arterial between Main Ave & Spring Ave
4. Fisher Avenue closed between Railroad Avenue & Butterfield Blvd Extension
5. DeWitt Avenue closed between Price Drive & Spring Avenue
6. Walnut Grove extended north as a 2-lane collector between Dunne Avenue & Diana Avenue
7. Tennant Avenue widened as a 4-lane arterial between US 101 SB Ramps & Murphy Avenue
8. Freeway loop on-ramp constructed from eastbound Tennant Avenue to northbound US 101
9. Monterey Road widened to 4-lane arterial betwn Cochrane Road & Old Monterey/Llagas Creek Dr.
10. Llagas Creek Drive extended as a 2-lane collector between Hale Avenue & Monterey Road
11. Old Monterey Road realigned to intersect with Llagas Creek Drive Extension
12. Dunne Avenue widened to a 4-lane arterial between Monterey Road & Del Monte Avenue
13. San Pedro Avenue realigned to intersect with Spring Avenue (*however, this is studied as a General Plan Circulation Element Amendment to NOT have it connect*)

The Transportation Demand Forecasting and Future Improvements Study assumed that the following roadway modifications were implemented in Morgan Hill by 2030:

14. Madrone Parkway extended as a 2-lane arterial between Hale Road & Monterey Road
15. DeWitt Avenue realigned as a 2-lane arterial with Sunnyside Avenue
16. Mission View Drive extended as a 2-lane collector between Cochrane Road & Vista del Lomas Ave.
17. Mission View Drive upgraded to a 2-lane multi-modal arterial btwn Cochrane Road & Half Road
18. Murphy/Mission View Drive extended as a 2-lane multi-modal arterial btwn Half Rd. & Diana Ave.
19. Monterey Road widened to a 6-lane arterial between Burnett Road & Cochrane Road
20. Cochrane Road widened to a 6-lane arterial between Monterey Road & Mission View Drive
21. Main Avenue widened to a 4-lane arterial between Depot Street and Butterfield Boulevard
22. Watsonville Road widened to a 4-lane arterial between La Alameda and Monterey Road
23. Serene Drive extended as a 2-lane collector between Jarvis Drive & Central Avenue
24. Dunne Avenue grade-separated from Union Pacific RR tracks and Depot Street Closure at Fifth (*however, this is studied as a General Plan Circulation Element Amendment to NOT close Depot Street, and to instead either depress it to match the new grade of Dunne, or to re-route Depot through the CCC parking lot to connect with Church Street at the existing signalized intersection.*)
25. McKevly Lane extended as a 2-lane collector between West Edmundson Avenue & La Crosse Drive
26. Tennant Avenue widened to a 6-lane arterial between US 101 Ramps and Butterfield Boulevard
27. Hill Road/Peet Road extended as a 2-lane collector between Half Road & Main Avenue

2030 CONDITIONS UNDER CURRENT GENERAL PLAN WITH MODEL-RECOMMENDED ROADWAY NETWORK (SCENARIO 5)

The Morgan Hill Travel Demand Model was run based on projected land uses assumed to occur by 2030 under the Current General Plan with projected land use development per Morgan Hill and VTA/ABAG/ SCCS projections; and with the above roadway modifications also assumed to be constructed by 2030. Under projected 2030 conditions under the Current General Plan land use projections, all road segments operate at LOS “D” or better.

The model projects that in 2030 all signalized intersections will meet the Existing GP LOS Policy standard of “D+”, with the exception of Main Avenue/Monterey Road, which is currently operating at “D” and is projected to fall to “E” in the AM Peak Hour (falling from E+ under the Current General Plan) and remain at “D” in the PM Peak Hour. This intersection has no feasible mitigation or improvement to achieve improved LOS, therefore this impact of the proposed project is considered significant and unavoidable. The Proposed LOS Policy Amendment would exempt this intersection.

Analysis of unsignalized intersections in 2030 showed that three intersections would operate below LOS D during both the AM and PM peak hours: Monterey/Central (“F” in both AM and PM peak hours), Monterey/Fourth (“F” in both AM and PM peaks hours) and Monterey/Fifth (“F” - falling from “E” under Current General Plan - in AM peak and “F” in PM peak hours). However, the results of peak-hour signal warrant analysis indicate that none of the intersections satisfy the peak hour warrant analysis. Under the city’s adopted Guidelines, a significant impact is defined to occur when an approach (for two-way stop control) or the intersection (for all-way stop control) operates at LOS E or F and the peak hour signal warrant is met or exceeded under “with project” conditions. Therefore, these unsignalized intersection operations would be considered acceptable even under Existing LOS Policy, and the impacts of the proposed project are considered less-than-significant. The service levels would also be acceptable and the impacts less-than-significant under the Proposed LOS Policy, which would exempt the Monterey/Fourth and Monterey/Fifth intersections from LOS standards and allow F.

The significance of the proposed project impacts (the Circulation Element Update with the Model-Recommended Roadway Modifications) is evaluated by comparing operations under the Year 2030 Current General Plan Conditions (Scenario 4) to the Year 2030 Model-Recommended Roadway Conditions (Scenario 5), using the significance criteria in the city’s adopted TIA Guidelines and LOS Policies for local streets, and using both VTA CMP and Caltrans significance criteria for US 101.

2030 CUMULATIVE CONDITIONS WITH GENERAL PLAN LAND USE AMENDMENTS AND WITH MODEL-RECOMMENDED ROADWAY NETWORK AND WITH ADDITIONAL POSSIBLE NETWORK MODIFICATION (SCENARIO 8)

The Morgan Hill Travel Demand Model was run based on projected land uses assumed to occur by 2030 under the Current General Plan with projected land use development per Morgan Hill and VTA/ABAG/SCCS projections, *BUT* with all of the proposed General Plan Amendments (and Urban Service Area Boundary Amendments) in place. The Model incorporates the Model-Recommended Roadway Modifications to the current General Plan, and *ALSO* incorporates the four Additional Possible Network Modifications [*Narrowing Monterey Road to 2 lanes, removing the Dunne grade separation, shifting Walnut Grove Extension to the west, and not connecting San Pedro to Spring*], with all roadway modifications assumed to be constructed by 2030.

The most significant General Plan Amendment is the proposed Downtown Specific Plan, which would generally double development levels over levels projected under the existing Downtown Plan (i.e. rather than about 600 new dwelling units, about 1,200 new dwelling units would be projected to occur by 2030). The General Plan Amendment and Urban Service Area Boundary Amendment land use modifications are summarized below:

List of Pending General Plan and Urban Service Area Amendments				
Project Name/Location		Size	GPA/USA	Change in 2030 General Plan Assumptions
1	West Hill Community Church, west side of Dewitt Avenue near Spring Avenue	10.6 acres	USA	Increase of 9,000 s.f. of building space
2	Peet – Trumpp, west side of Peet Road, north of Half Road	6 acres	USA	Add single family residences into the Urban Service Area.
3	Monterey – Morgan Hill Bible Church, 15055 Monterey Highway	8.7 acres	USA	Add parcels into the USA & replace approximately 11,600 s.f. of church and school space with approx. 20,000 s.f. of the same land use; Add parcels into the USA and amend the General Plan and Zoning to bring existing uses into conformance.
4	Watsonville – Royal Oaks, SW corner of Watsonville Road and Monterey Road and Watsonville Road west of Monterey Road	15.69 acres	USA & GPA	Decrease of 45 single family residences; Increase of 100 multi-family units, 180 senior units, and 6,000 s.f. of retail space.
5	Cochrane – Fountain Glen Properties, SE corner of Cochrane Road and Butterfield Boulevard	20.43 acres	GPA	Decrease of 64,000 s.f. of service and 112,000 s.f. of office; Increase of 280 senior residential units, 31,000 s.f. of retail space, and a 300 student elementary school.
6	Simonsen – DeRose, north of Laurel Road	11.46 acres	GPA	Increase of 113,500 s.f. of commercial uses.
7	Hale-Signature Properties, between Hale Avenue & UPRR tracks south of residential development on Tarragon Avenue and north of residential land use on Campoli Drive	30 acres	GPA	Increase of 120 residential units
8	Downtown Specific Plan, generally bounded by Depot Street on the east, Dunne Avenue on the south, Del Monte Street on the west and Main Avenue on the north.	161 acres	GPA	Redevelop the Downtown area with approximately 1,204 residential units and approximately 186,000 s.f. of retail space and additional office/service relative to existing uses.
9	Butterfield – Berg & Berg, west of Butterfield between Sutter Blvd. and Jarvis Drive	56 acres	GPA	Decrease of 247,000 s.f. of R&D/industrial, 15,000 s.f. of office, and 150,000 s.f. of warehouse space; Increase of 25,000 s.f. of retail, 60 multi-family units and 446 single family units

Under projected 2030 conditions under all General Plan Land Use Amendments, including the Downtown Specific Plan, and all Circulation Amendments, including the possible Monterey Road Narrowing, all **road segments** operate at LOS “D” or better *except* the segment of Monterey Road between Main Avenue and Dunne Avenue (the blocks where the road would be narrowed from 4 lanes to 2 lanes). Under these conditions, the proposed lane reduction will cause some traffic to divert to parallel facilities, including the Hale/Santa Teresa Corridor and the Butterfield Boulevard Corridor. The model still shows a high level of use of Monterey Road; if drivers were to choose diversion levels beyond that projected by the model, there is substantial excess capacity available on both of those parallel facilities.

Under the Proposed LOS Policy, which is one of the proposed GPAs, and thus part of the Cumulative GPA Conditions, the Downtown Core would be exempted from the LOS policy, and thus the Monterey Road segment between Main Avenue and Dunne Avenue would operate acceptably, there would be no cumulative impacts, and no mitigation would be required.

The model projects that in 2030 four **signalized intersections** will not meet the Existing GP LOS Policy standard of “D+”:

Main Avenue/Monterey Road	F in both AM and PM peak hours
Main Avenue/Butterfield Road	D in both AM and PM peak hours
Dunne Avenue/Monterey Road	D in PM peak hour
Dunne Avenue/Butterfield Road	D in PM peak hour

Under the Proposed LOS Policy, which is one of the proposed GPAs, and thus part of the Cumulative GPA Conditions, all of the above signalized intersections would operate acceptably, there would be no cumulative impacts, and no mitigation would be required.

Significance and Mitigations for Cumulative Impacts on Road Segments Intersections under Existing LOS Policy: The proposed General Plan Amendments would have a significant cumulative impact, which would also be considered cumulatively considerable, along Monterey Road between Main Avenue and Dunne Avenue. This impact is significant and unavoidable unless, as noted earlier, the City changes its LOS Policy to exempt Downtown, or the city retains the existing 4-lane configuration of Monterey Road through Downtown.

The model shows that additional capacity will be available in the parallel Santa Teresa/Hale and Butterfield Boulevard Corridors. However, many of the trips on Monterey Road will have origins and destinations in the downtown area. Either the LOS Policy Change or Maintaining 4 Lanes would be required to avoid an unmitigated cumulative impact, however, retaining the existing four-lane configuration would preclude widening of sidewalks, narrowing of pedestrian crossings, reducing vehicular travel through downtown, and enhancing the multi-modal-friendly environment.

It should be noted that city staff will be recommending to the Planning Commission and City Council that any decision on whether or not to narrow Monterey Road be deferred until after comprehensive streetscape alternatives planning occurs. The City has applied for grant funds to carry out such streetscape planning in FY 2009/10, and both four-lane and two-lane configurations would be studied with regard to use and design of the Monterey Road public right of way.

Significance and Mitigations for Cumulative Impacts on Signalized Intersections under Existing LOS Policy: Three signalized intersections would operate unacceptably under the Existing LOS Policy; each of these would operate acceptably under the Proposed LOS Policy.

The **Main Avenue/Monterey Road** signalized intersection is currently operating at “D”. It falls to “E+” in the AM peak under the Current General Plan; falls to “E” in the AM peak hour under the Proposed Project Model-Recommended Network under Current General Plan Land Uses; and falls to “F” in both the AM and PM peak hours under the Cumulative GPA Land Use and Circulation Amendments (i.e. with Downtown Specific Plan and Monterey Road Narrowing and all other GPAs). Operations would be about 120 seconds of average delay in the AM peak and 80 seconds of average delay in PM peak.

The following improvements would mitigate the impact and improve the intersection operations to LOS D (39 seconds of average delay) in the AM peak and LOS C- (34 seconds of average delay) in the PM peak:

- Install protected east/west phasing with modifications to the eastbound approach (i.e. a left-turn lane and a shared-through right) and widen the westbound approach (i.e. separate left, through and right lane with an overlap).
- The southbound approach would need to be widened to include two southbound left-turn lanes, a through lane and a shared through-right lane. The northbound and southbound approaches would conflict with the potential narrowing of Monterey Road from four to two lanes between either Main Avenue and either 5th Street or Dunne Ave.

Due to the proximity of existing buildings, widening of Main Street is considered **infeasible**, and therefore Cumulative Impact is considered significant and unavoidable under the Existing LOS Policy. The projected F operations show that during peak hours, extensive queues are expected to form and some additional traffic may be diverted from Monterey Road to parallel facilities including the Butterfield Boulevard Corridor and the Santa Teresa/Hale Corridor. During off-peak hours, however, operations are expected to be at least LOS D or better based on projected intersection delay and the amount of estimated daily traffic on Monterey Road.

Under the Proposed LOS Policy, which is one of the proposed GPAs, and thus part of the Cumulative GPA Conditions, the Main/Monterey signalized intersection would be allowed to operate at F, therefore there would be no cumulative impact, and no mitigation would be required.

The **Main Avenue/Butterfield Boulevard signalized intersection** is currently operating at “C-” in the AM peak and “D+” in the PM peak. It falls to “D+” in both the AM & PM peak hours under the Current General Plan; remains “D+” for both the AM & PM peak hours under the Proposed Project Model-Recommended Network under Current General Plan Land Uses; and falls to “D” in both the AM and PM peak hours under the Cumulative GPA Land Use and Circulation Amendments (i.e. with Downtown Specific Plan and Monterey Road Narrowing and all other GPAs). Operations would be about 39 seconds of average delay in both the AM and PM peaks.

The following improvements would mitigate the impact and improve the intersection operations to LOS D+ or better under Cumulative GPA Conditions:

- **Install a second northbound left-turn lane** (*may require right of way from the northwest and southeast corners of the intersection, but this is considered physically feasible*)

Under the Proposed LOS Policy, which is one of the proposed GPAs, and thus part of the Cumulative GPA Conditions, the Main/Butterfield signalized intersection would be allowed to operate at LOS E, and therefore the projected LOS D would mean that the intersection would operate acceptably, there would be no cumulative impact, and no mitigation would be required.

The **Dunne Avenue/Monterey Road signalized intersection** is currently operating at “C” in the AM peak and “D+” in the PM peak. It remains “C” in the AM and “D+” in the PM peak hours under the Current General Plan; and also remains “C” in the AM and “D+” in the PM peak hours under the Proposed Project Model-Recommended Network under Current General Plan Land Uses. LOS falls to “C-” in the AM peak hour and “D” in the PM peak hour under the Cumulative GPA Land Use and Circulation Amendments (i.e. with Downtown Specific Plan and Monterey Road Narrowing and all other GPAs). Operations would be about 48 seconds of average delay in the PM peak hour.

The following improvements would mitigate the impact and improve the intersection operations to LOS D+ or better under Cumulative GPA Conditions:

- **Install an eastbound right-turn overlap phase, and a southbound approach with a left-turn, through lane and shared through-right lane.**

Analysis of unsignalized intersections in 2030 showed that four intersections would operate below LOS D during both the AM and PM peak hours:

Monterey Road/Central Avenue	F in both AM and PM peak hours
Monterey Road/Fourth Street	F in both AM and PM peaks hours
Monterey Road/Fifth Street	F in both AM and PM peak hours
Dunne Avenue/Del Monte Avenue	E in AM peak hour & F in PM peak hour

The results of peak-hour signal warrant analysis indicate that only the Dunne Avenue/Del Monte intersection satisfies the peak hour warrant analysis.

Significance and Mitigations for Cumulative Impacts on Unsignalized Intersections under Existing LOS Policy:

The **Dunne Avenue/Del Monte Street unsignalized intersection** currently operating at “B” in the AM and PM peaks. It falls to “C” in the AM & PM peaks under the Current General Plan, stays “C” in the AM but fall to “D” in the PM peak hour under the Proposed Project Model-Recommended Network under Current General Plan Land Uses, and falls to “E” in the AM and “F” in the PM peak hour under the Cumulative GPA Land Use and Circulation Amendments (i.e. with Downtown Specific Plan and Monterey Road Narrowing and all other GPAs). Operations would be about 37 seconds of average approach delay in the AM peak hour and 74 seconds of average approach delay during the PM peak hour.

The following improvement would mitigate the impact and improve the intersection operations to LOS C (20.6 seconds of average delay) in the AM peak and LOS C+ (20.8 seconds of average delay) in the PM peak under Cumulative GPA conditions:

- **Install a traffic signal**

With incorporation of the above mitigation measure, all cumulative impacts are considered less-than-significant under the Existing LOS Policy.

Under the Proposed LOS Policy, which is one of the proposed GPAs, and thus part of the Cumulative GPA Conditions, the Dunne/Del Monte unsignalized intersection would be allowed to operate at LOS F, and therefore the projected LOS E and F would mean that the intersection would operate acceptably, there would be no cumulative impact, and no mitigation would be required.

US 101 FREEWAY LEVEL OF SERVICE, IMPACT AND MITIGATION ANALYSIS

Planned HOV Lane. The widening of US 101 to include a High Occupancy Vehicle (HOV) or “carpool” lane in each direction from Cochrane Road to Monterey Road in Gilroy is a VTA planned project included in the Valley Transportation Plan (VTP) 2030, a regional planning document for Santa Clara County. In the Morgan Hill traffic model, the recommended roadway improvement analysis for 2030 included this project, which will provide additional capacity in the South County US 101 corridor and encourage peak period carpooling. The South County Circulation Study also identified other desirable roadway improvements along the US 101 corridor such as ramp metering, auxiliary freeway lanes and High Occupancy Toll lanes (HOT lanes).

As discussed in the “Travel Demand Forecasting Model & Future Improvements Study”, in order to assess the benefit of the planned US 101 HOV lanes on Morgan Hill local street circulation, Fehr & Peers conducted a sensitivity analysis by removing the HOV lane improvement from the future 2030 network and performing another model run. The results of this analysis showed that removal of the additional freeway capacity actually reduces traffic on the major east-west corridors that access the freeway through interchanges at Cochrane Road, Dunne Avenue and Tennant Avenue. The complement to this change in east/west travel patterns is that the reduced freeway capacity increases traffic on the north-south roadways parallel to US 101 -- such as on Hale/Santa Teresa, Monterey Road, Butterfield Boulevard, and Murphy/Mission View. However, the resulting LOS analysis of daily volumes shows that, while volumes would increase on these north-south roadways, the removal of the HOV lanes from the freeway would not require the addition of any through capacity on the parallel Morgan Hill streets by 2030.

Level of Service (LOS) Standards and Mitigation of Freeway Impacts: VTA/CMP and Caltrans. Freeway segments were evaluated using daily volume thresholds, for this General Plan level of analysis (it is not possible to accurately project freeway density for a 2030 time horizon). The adopted Congestion Management Program (CMP), prepared by VTA, establishes a LOS E standard for CMP-monitored roadways, which includes US 101. It should be noted that Caltrans has accepted the adopted CMP TIA methodologies, and it is appropriate to use the adopted CMP standard as the threshold of significance for impacts to the freeways. It is also relevant to disclose, however, that Caltrans also states that it strives to maintain freeway facilities at the LOS C/D cusp per its *Guide for Preparation of Traffic Impact Studies* (December 2002), and the EIR also addresses significance under the Caltrans threshold for significance.

Existing Freeway LOS. Average Daily Traffic (ADT) and Level of Service (LOS) analysis of the 8 US 101 freeway northbound and southbound mainline segments between San Martin Avenue (south of Morgan Hill) and Coyote Creek Road (north of Morgan Hill) showed that the existing LOS is “E” for all of the 3-lane freeway segments in Morgan Hill, while it is “C” for northbound 101 and “D” for southbound 101 between Cochrane and Coyote Creek Road. Under the adopted CMP “E” standard, all freeway segments currently operate at acceptable levels of service, however under the Caltrans “C/D Cusp” standard, the “E” segments would be considered unacceptable.

Current General Plan 2030 Freeway Level of Service (Scenario 4). Under Year 2030 conditions US 101 is widened to include an HOV lane through Morgan Hill. LOS analysis shows that all southbound US 101 freeway segments and the northbound segment between Cochrane Road and Coyote Creek Road operate at an unacceptable LOS F, and the remaining 3 northbound freeway segments (all between San Martin Avenue and Cochrane Road) operate at LOS E. Measured against the Caltrans “C/D Cusp” standard, all freeway segments operate unacceptably, while measured against the adopted VTA CMP “E” standard, only the 5 segments that would operate at LOS F would be considered unacceptable. The TIA indicates that these unacceptable operations are projected to occur regardless of changes to the Morgan Hill future network and/or City LOS policies.

Year 2030 Model-Recommended Roadway Conditions (Scenario 5 “Proposed Project”). Analysis was based on projected land uses assumed to occur by 2030 under the Current General Plan (just as in Scenario 4 above, with projected land use development per Morgan Hill and VTA/ABAG/SCCS projections), BUT assuming the Model-Recommended Roadway Modifications also assumed to be constructed by 2030 (see the 2015 and 2030 list of improvements shown later in this memorandum).

The analysis shows that freeway volumes on northbound US 101 between Dunne Avenue and Cochrane Road *increase* by 2.5% northbound and by 1.3% southbound relative to current General Plan conditions. Freeway volumes between Dunne and Tennant *decrease* by 0.9% northbound and by 1.0% southbound. However, none of the mainline freeway segments actually change in term of Level of Service with implementation of the model-recommended network; LOS operations are as stated above for the Current General Plan.

Year 2030 Cumulative General Plan Amendment Conditions, including all General Plan Land Use Amendments and all Circulation Element Amendments (Scenario 8). Analysis was based on land uses under the Proposed General Plan Land Use Amendments, plus the model-recommended road network, plus the additional City-initiated possible roadway modifications. [*Narrowing Monterey Road to 2 lanes, removing the Dunne grade separation, shifting Walnut Grove Extension to the west, and not connecting San Pedro to Spring.*] LOS analysis based on Existing LOS Policy and current TIA Guidelines, and LOS analysis also presented based on *Proposed GPA Tiered LOS Policy*

The LOS analysis shows that all southbound US 101 freeway segments and the northbound segment between Cochrane Road and Coyote Creek Road operate at an unacceptable LOS F, and the remaining 3 northbound freeway segments (all between San Martin Avenue and Cochrane Road) operate at LOS E. Measured against the Caltrans “C/D Cusp” standard, all freeway segments operate unacceptably, while measured against the adopted VTA CMP “E” standard, only the 5 segments that would operate at LOS F would be considered unacceptable. As previously noted, these levels of service are the same as would occur under the Current General Plan 2030 Conditions, and therefore the TIA indicates that these unacceptable operations are projected to occur regardless of changes to the Morgan Hill future network and/or City LOS policies.

Significance and Mitigation of Impacts of Proposed Project for US 101 Freeway. The significance of the proposed project (the Circulation Element Update with the Model-Recommended Roadway Modifications) on US 101 is evaluated by comparing freeway operations under the Year 2030 Current General Plan Conditions to the Year 2030 Model-Recommended Roadway Conditions.

The adopted VTA CMP significance criteria states that freeway segment impacts are determined to be “significant” when the addition of traffic from the proposed project causes: a) freeway segment

operations to deteriorate from an acceptable level under Current General Plan Conditions to unacceptable level; OR b) an increase in volume of one percent (1%) in the capacity of a freeway segment that is already operating unacceptably under Current General Plan Conditions.

The Caltrans standard and significance criteria from the *Guide for the Preparation of Traffic Impact Studies* (December 2002) states that impacts on Caltrans freeway segments are determined to be “significant” when: a) freeway segment operations deteriorate from an acceptable level under Current General Plan Conditions to unacceptable level; OR b) any new trips are added to a facility already operating unacceptably under Current General Plan Conditions.

Based on the adopted VTA CMP significance criteria, the proposed project would have a significant impact on US 101 between Dunne Avenue and Cochrane Road in the southbound direction. The widening of US 101 to five (5) lanes, or the addition of an auxiliary lane in the southbound direction would mitigate the impact.

Based on the Caltrans significance criteria, the proposed project would have a significant impact on US 101 between San Martin Avenue and Tennant Avenue both northbound and southbound (1 segment each direction, located outside of the city limits); and also between Dunne Avenue and Coyote Creek Road both northbound and southbound (2 segments each direction, both within and outside of city limits). The widening of US 101 to five (5) lanes, or the addition of auxiliary lanes both southbound and northbound between Dunne Avenue and Cochrane Road would mitigate the impact.

Significance and Mitigation of Cumulative Impacts for US 101 Freeway. The cumulative impact criteria are identical to the Model-Recommended Roadway (proposed project) significance criteria except Cumulative GPA impacts are compared to Existing Conditions. These cumulative projects are determined to be “cumulatively considerable” when the cumulative impact criteria are met between Year 2030 Cumulative GPA Conditions (Scenario 8) to Year 2030 Current General Plan Conditions (Scenario 4).

Based on the adopted VTA CMP significance criteria, (i.e. a one percent increase or more), and compared to *Existing Conditions*, the Year 2030 Cumulative GPA Conditions would have a *significant cumulative impact* on US 101 at the following locations: between Cochrane Road and Coyote Creek Road in the northbound direction (1 segment), and between Coyote Creek Road and San Martin Avenue in the southbound direction (all 4 segments) as those 5 segments would operate at an unacceptable LOS F. Three of those US 101 segments are *cumulatively considerable* compared to *Current General Plan 2030 Conditions*: between Coyote Creek Road and Dunne Avenue southbound (2 segments), and between Tennant Avenue and San Martin Avenue southbound (1 segment).

The widening of US 101 to five (5) lanes would mitigate the cumulatively considerable impacts and the freeway would operate at LOS D. An alternative mitigation for the southbound segment between Cochrane Road and Dunne Avenue is the construction of an auxiliary lane between these interchanges.

Based on the Caltrans significance criteria, (i.e. any new trips on freeway segments operating at unacceptable levels of service), and compared to *Existing Conditions*, the Year 2030 Cumulative GPA Conditions would have a *significant cumulative impact* on US 101 on all US 101 northbound and southbound study segments between San Martin Avenue and Coyote Creek Road. Seven of those US 101 segments are *cumulatively considerable* compared to *Current General Plan 2030 Conditions*; only the southbound segment between Tennant Avenue and Dunne Avenue is not considered cumulatively considerable.

The widening of US 101 to five (5) lanes would mitigate the cumulatively considerable impacts and the freeway would operate at LOS D. An alternative mitigation for the southbound segment between Cochrane Road and Dunne Avenue is the construction of an auxiliary lane between these interchanges. Alternative US 101 northbound mitigation between Tennant Avenue and Cochrane Road is the construction of auxiliary lanes between adjacent interchanges.

No Feasible Mitigation for Significant Impacts to US 101 Freeway. Degradation of US 101 mainline operations to 2030 and beyond is caused by future growth within and outside Santa Clara County, as well as the addition of traffic from development from development of the City of Morgan Hill General Plan land uses. Already planned increases in land use and changes to regional travel patterns will contribute to unacceptable operations of the US 101 freeway.

It is not feasible for the City of Morgan Hill to itself implement the above measure(s) that would be required to mitigate the impacts to the freeway by implementing the above-identified improvement(s). The Valley Transportation Agency and Caltrans are the responsible agencies for planning for and implementing improvements within the US 101 corridor. A fair share contribution from the City of Morgan Hill toward freeway improvement costs would be an acceptable mitigation measure, however significant impacts are not reduced or eliminated until the freeway improvements are actually implemented. Additional sources would be needed to provide adequate funding, which can include State Transportation Improvement Program funds for projects identified in the *Valley Transportation Plan 2030*, impact fees from other jurisdictions, and/or a regional impact fee. No funding for the affected portions of US 101 is expected to receive state funding based on the 2008 *State Transportation Improvement Program*. The City has implemented an impact fee to develop some of the local Morgan Hill roadway improvements but does not have a funding strategy in place to contribute towards regional improvements, and there is no regional or state impact fee program established. City representatives do and will continue to work collaboratively with San Jose, Gilroy, Santa Clara County, counties to the south (ie. Monterey, San Benito and Merced Counties), the Valley Transportation Agency, and Caltrans to prepare and develop a funding strategy for South County freeway improvements. Payment of traffic impact fees or a fair share contribution would be expected to fulfill the City's obligations for mitigating regional traffic impacts; however, unless other funding sources such as a new regional impact fee, additional sales tax measures, contributions from other developers, or state funds are made available, feasible freeway and regional improvements will not be implemented, and the impact of not meeting the Caltrans freeway LOS standard would remain significant and unavoidable.

DISCUSSION OF PLANNED GRADE SEPARATION PROJECTS

The existing Circulation Plan (Map 4 of the Circulation Element) provides for 2 future new grade-separated railroad crossings: at Dunne Avenue and Butterfield South Extension. Madrone Parkway Crossing had been planned for a 4-lane at-grade crossing.

The Transportation Demand Forecasting and Future Improvements Study reflects model-recommended grade separation crossings of the Union Pacific Railroad (UPRR) tracks at three locations: 1) Dunne Avenue Underpass, 2) Butterfield Boulevard South Extension Overpass, and 3) Madrone Parkway (assuming that any new crossing would need to be grade-separated, and likely an underpass). Existing at-grade crossings are assumed to remain at Tilton Avenue, Main Avenue, San Pedro Avenue and Tennant Avenue. The at-grade crossing at Central Avenue was closed several years ago.

The proposed Circulation Element Update confirmed that a Madrone Parkway Crossing between Monterey and Hale is a necessary improvement, but modifies the Circulation Plan to show a 2-lane grade-separated facility constructed after 2015 and before 2030. The proposed Element would also allow that as an alternate or interim improvement the City may pursue a 2-lane at-grade crossing in exchange for closing the existing 2-lane at-grade crossing at San Pedro.

The Transportation Studies did evaluate a possible Circulation Element Amendment to NOT plan to grade separate Dunne Avenue, so that Depot Street could remain connected to Dunne and retain its ability to provide access to the Caltrain Station and public parking lots, and as an alternative to Monterey Road through the downtown area. The Studies developed two alternatives that would allow the grade separation plan for Dunne Avenue to remain intact, but would also allow for continued connection of Depot to Dunne:

- Retain the existing configuration of Depot Street, which would require additional engineering and construction costs to depress this portion of Depot Street to meet the lowered grade of Dunne Avenue;

OR

- **Realign the southern end of Depot Street to intersect with Church Street at Dunne Avenue. This realignment would require re-configuration of the existing Community Center parking lot and possibly pedestrian improvements to improve crossing of the re-aligned Depot Street.**

City staff believes that the second approach above is the preferred mitigation measure to allow the Dunne grade separation project to remain the long-term plan, while also allowing for connection of Depot Street to Dunne Avenue.

The City will work with the Public Utilities Commission and Union Pacific Railroad to determine the appropriate phasing of new grade crossings and grade separations.

EFFECTS OF SMART GROWTH POLICIES

The TIA also includes a qualitative discussion of the likely effects of a “smart growth” urban development pattern that reflects techniques to encourage walking, biking and transit use and reduce demand for vehicle travel. Development pattern variables such as density, diversity, design and destination (the “4D’s”) have an effect on Vehicle Miles Traveled (VMT), as summarized below:

- **Density**: Residential and non-residential development per acre. More dense development increases opportunities for serving an area with transit, for carpooling, etc. For example, doubling of neighborhood density would be expected to result in approximately a five percent (5%) reduction in VMT.
- **Diversity**: Mix of residential, retail, and employment land uses. For example, doubling the mix of land uses compared to the regional average increases opportunities for being able to walk to workplaces and shopping/service areas and so forth, and can result in a five percent (5%) reduction in VMT.
- **Design**: Connectivity and walkability of the transportation network. For example, doubling of the street connectivity and walkability compared to the regional average can result in a three percent (3%) reduction in VMT.
- **Destination Accessibility**: Location relative to the major regional attractions. For example, doubling of the destination accessibility compared to the regional average can reduce VMT up to twenty percent (20%).

The TIA points out that traditional travel demand models, such as the Morgan Hill Model, have limited sensitivity to the above factors, and thus vehicle trips (VT) and VMT can be overstated for areas with smart growth development patterns. If the factors of Density and Diversity are included, then a reduction in VT and VMT of ten percent (10%) would be expected in the Traffic Analysis Zones where these factors exist, such as Downtown. However, the TIA did not incorporate any reduction due to these factors, and therefore it represents a conservative analysis of traffic operations.

OTHER FINDINGS OF DRAFT ENVIRONMENTAL IMPACT REPORT

A summary of Impacts and Mitigation & Avoidance Measures for factors other than Transportation is provided in chart below:

Noise and Vibration Impacts	
Impact NOI-1: Residences adjacent to the east side of the Murphy Avenue extension would be exposed to a substantial noise level increase. (Significant Impact)	<p>City of Morgan Hill General Plan</p> <p>Various policies in the City’s General Plan have been adopted for the purpose of avoiding or mitigating noise impacts resulting from planned development within the City. All planned development under the proposed Circulation Element update would be subject to the development policies listed in the City’s General Plan, including the following:</p> <ul style="list-style-type: none">• Noise Policy 7b – The impact of a proposed development project on existing land uses should be evaluated in terms of the potential for adverse community response based on significant increase in existing noise levels, regardless of compatibility guidelines.• Noise Action 7.3 – Require attention to site planning and design techniques other than sound walls to reduce noise impacts, including: a) installing earth berms, b) increasing the distance between the noise source and the receiver; c) using non-sensitive structures such as parking lots, utility areas, and garages to shield noise-sensitive areas; d) orienting buildings to shield outdoor spaces from the noise source; and e) minimizing the noise at its source.• Noise Policy 8a – Roadway design, traffic signalization and other traffic planning techniques (such as limiting truck traffic in residential areas) shall be used to reduce noise caused by speed or acceleration of vehicles.

	<p>Mitigation and Avoidance Measures to be Considered at the Time of Future Roadway Improvements</p> <p>MM NOI -1: During project-level design, complete a detailed noise study to quantify noise levels generated by the Murphy Avenue extension to Mission View Drive and to calculate the increase in ambient noise levels resulting from the project. The study limits should include noise sensitive land uses adjacent to the project alignment as well as those along the existing segments of Murphy Avenue and Mission View Drive that would be connected with the project. A significant impact would be identified where traffic noise levels would exceed the City of Morgan Hill’s “normally acceptable” noise level standard for residential land uses and/or where ambient noise levels would be substantially increased with the project. Project specific mitigation measure should include, but not be limited to, considering the location of the planned roadway alignment relative to existing receivers in the vicinity, evaluating the use of noise barriers to attenuate project-generated traffic noise, and/or evaluating the use of “quiet pavement” to minimize traffic noise levels at the source. Mitigation should be designed to reduce noise levels into compliance with “normally acceptable” levels for residential noise and land use compatibility and to avoid a substantial permanent increase in noise. (Less than Significant Impact with Program Mitigation)</p>
<p>Impact NOI-2: An at-grade Madrone Parkway railroad crossing could expose sensitive receptors in the area to substantial noise levels, because trains would be required to sound their warning whistles. (Significant Impact)</p>	<p>Refer to General Plan Policies listed for Impact NOI-1. These policies have been adopted for the purpose of avoiding or mitigating noise impacts resulting from planned development within the City. All planned development under the proposed Circulation Element update would be subject to the development policies listed above.</p> <p>Mitigation and Avoidance Measures to be Considered at the Time of Future Roadway Improvements</p> <p>MM NOI-2: During project-level design, conduct a detailed noise study to calculate noise levels expected as a result of train warning whistles and warning bells that would be sounded if an alternate or interim Madrone Parkway at-grade crossing were constructed, and to calculate the increase in ambient noise levels resulting from the project. The study limits should include noise sensitive land uses north and south of the at-grade crossing as warning whistles would be expected up to one-quarter mile in each direction. A significant impact</p>

	<p>would be identified where (it is likely that these receivers are already exposed to noise levels above 60 dBA L_{dn}) where ambient noise levels would be substantially increased with the project. Project specific mitigation measures should include, but not be limited to, evaluating the use of noise barriers to attenuate the warning whistle/bell noise, residential sound insulation, utilizing wayside horns, and/or establishing a train whistle quiet zone per the Federal Railroad Administration's <i>Final Rule on the Use of Locomotive Horns at Highway-Rail Grade Crossings</i>. Mitigation should be designed to avoid a substantial permanent increase in noise. (Less than Significant Impact with Program Mitigation)</p>
<p>Impact NOI-3a: Residences within 100 feet from the planned Walnut Grove Drive centerline would be exposed to a substantial noise increase. (Significant Impact)</p>	<p>Refer to General Plan Policies listed for Impact NOI-1. These policies have been adopted for the purpose of avoiding or mitigating noise impacts resulting from planned development within the City. All planned development under the proposed Circulation Element update would be subject to the development policies listed above.</p> <p>Mitigation and Avoidance Measures to be Considered at the Time of Future Roadway Improvements</p> <p>MM NOI-3a: During project-level design, conduct a detailed noise study to quantify noise levels generated by the extension of Walnut Grove Drive from Dunne Avenue to Diana Avenue and to calculate the increase in ambient noise levels resulting from the project. The study limits should include noise sensitive land uses adjacent to the project alignment as well as those along the existing segments of roadway connected by the project. A significant impact would be identified where traffic noise levels would exceed the City of Morgan Hill's "normally acceptable" noise level standard for residential land uses and/or where ambient noise levels would be substantially increased with the project. Project specific mitigation measure should include, but not be limited to, considering the location of the planned roadway alignment relative to existing receivers in the vicinity, evaluating the use of noise barriers to attenuate project-generated traffic noise, and/or evaluating the use of "quiet pavement" to minimize traffic noise levels at the source. Mitigation should be designed to reduce noise levels into compliance with "normally acceptable" levels for residential noise and land use compatibility and to avoid a substantial permanent increase in noise. (Less than Significant Impact with Program Mitigation)</p>

Air Quality Impacts

Impact AIR-1: Implementation of the circulation system changes in the proposed Circulation Element Update would increase annual VMT slightly, by 0.1 percent. For this reason, implementation of the proposed Circulation Element update would not be fully consistent with the Clean Air Plan. **(Significant Impact)**

Morgan Hill General Plan

Various policies in the City's General Plan have been adopted which would avoid or reduce air pollutant emissions resulting from planned development within the City. Policies that address Transportation Control Measures (TCMs) as called for in the 2005 Ozone Strategy (the current CAP) include:

- TCM# 9 - Improve Bicycle Access and Facilities (Circulation Policies 7a-7p)
- TCM #12 - Improve Arterial Traffic Management (Circulation Policy 1a)
- TCM# 15 - Local Clean Air Plans, Policies and Programs (Circulation Policies 1d and 6a-j)
- TCM# 19 - Pedestrian Travel (Circulation Policies 1c, 8a, and 8b)
- TCM# 20 - Promote Traffic Calming Measures

Circulation Element Policy Changes

The proposed Circulation Element includes a range of policies that support multi-modal transportation and intensification of development in selected areas of the City to facilitate increased utilization of transit, bicycle, and pedestrian modes and reducing VMT by residents and employees, primarily in the Downtown area. New and revised policies that would support TCMs in the latest Clean Air Plan and reduce the rate of growth of future VMT include:

Circulation Element Policy 3p – Obtain sufficient right-of-way for Santa Teresa Boulevard to accommodate pedestrian pathways, bicycle paths and medians with turn pockets, as a multi-modal two-lane arterial. This policy would support TCM #9 and TCM #19.

Circulation Element Policy 9a – Use Smart Growth principles throughout the City to create and maintain a livable community with a balanced, multi-modal transportation system that offers viable choices for residents, employees, customers, visitors and recreational users. This policy would support TCM #12, TCM #19, and TCM #20.

	<p>Circulation Element Policy 9b – Recognize the unique nature of and goals for Downtown Morgan Hill as the transit hub of the city and as a center for shopping, business, entertainment, civic and cultural events, and higher-density, mixed-use living opportunities; and exempt the Downtown from meeting vehicular traffic level of service standard and from traffic mitigation requirements. This policy would support TCM #9 and TCM #20.</p> <p>Implementation of the above new policies and the new two-Lane Arterial Multi-Modal Standards will support increased use of alternate modes of travel on key new segments including Santa Teresa/Hale, Butterfield Boulevard extensions north and south, and Murphy/Mission View. The increased use of pedestrian, bicycle, and transit facilities and resulting decrease in VMT that could result from implementation of the proposed Circulation Element Update is not accounted for in the Morgan Hill Travel Demand Forecasting Model, neither is the decrease in VMT that could result from the increased density and diversity of development supported by the Circulation Element Update. Implementation of the policies listed above would reduce the relatively small projected increase in VMT, which would avoid inconsistency with the adopted Clean Air Plan, and implementation of the Multi-Modal Standards on the key new segments of Santa Teresa/Hale and other arterials, comprise avoidance measures incorporated into the proposed project, which will mitigate associated air quality impacts to a less than significant level. (Less than Significant Impact with Program Mitigation)</p>
<p>Impact AIR-2: Construction of the planned roadway improvements could result in temporary construction-related air quality impacts. (Significant Impact)</p>	<p>City of Morgan Hill Standard Conditions of Approval</p> <ul style="list-style-type: none"> • A management plan detailing strategies for control of dust during construction of the project shall be included on all development and grading plans. The intent of this condition is to minimize construction related disturbance of residents of the nearby or adjacent properties. [MHMC 18.48.005] <p>California Health and Safety Code</p> <ul style="list-style-type: none"> • Section 41701 of the California Health and Safety Code, a person shall not discharge into the atmosphere from any single source of emissions

whatsoever, any air contaminants for a period or periods aggregating more than three minutes in any one hour which is:

- As dark or darker in shade as that designated as No. 2 on the Ringlemen Chart, as published by the United States Bureau of Mines; or
- Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in Subsection 'a' above.

**Bay Area Air Quality Management District
(BAAQMD)**

- Regulation 6 – Rule 1 – Section 303 – Ringelmann No. 2 Limitation: A person shall not emit for a period or periods aggregating more than three minutes in any hour, a visible emission which is as dark or darker than No. 2 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to an equivalent or greater degree, nor shall said emission, as perceived by an opacity sensing device in good working order, where such device is required by District regulations, be equal to a greater than 40% opacity, from the following sources:
 - 303.1 Internal combustion engines of less than 25 liters (1500 in³) displacement or any engine used solely as a standby source of motive power;
 - 303.2 Laboratory equipment used exclusively for chemical or physical analyses or experimentation;
 - 303.3 Portable brazing, soldering or welding equipment;
- Regulation 6 – Rule 1 – Section 305 – Visible Particles: A person shall not emit particles from any operation in sufficient number to cause annoyance to any other person, which particles are large enough to be visible as individual particles at the emission point or of such size and nature as to be visible individually as incandescent particles. This Section 6-1-305 shall only apply if such particles fall on real property other than that of the person responsible for the emission.

(Less than Significant Impact with Program Mitigation)

**Mitigation and Avoidance Measures to be Considered
at the Time of Future Roadway Improvements**

Construction Dust Emissions

The Bay Area Air Quality Management District (BAAQMD) has prepared a list of feasible demolition and construction dust control measures to reduce construction impacts to a less than significant level. The following construction practices shall be implemented during demolition and construction phases of construction to reduce dust and exhaust emissions: in the Specific Plan project are

- Water active demolition areas to control dust generation during demolition of structures and break up of pavement.
- Cover all trucks hauling demolition debris from the site.
- Use dust proof chutes to load debris into trucks whenever feasible.
- Water all active construction areas at least twice daily.
- Water or cover stockpiles of debris, soil, sand, or other materials that can be blown by the wind.
- Cover all trucks hauling soil, sand, and other loose materials, or require all trucks to maintain at least two feet of freeboard.
- Pave, apply water three times daily, or apply (non toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites.
- Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites.
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.
- Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more).
- Enclose, cover, water twice daily, or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.).
- Limit traffic speeds on unpaved roads to 15 miles per hour.
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- Replant vegetation in disturbed areas as quickly as possible.

	<p style="text-align: center;">Construction Exhaust Emissions</p> <ul style="list-style-type: none"> • Use alternative fueled construction equipment, when feasible. • Minimize idling time (five minutes maximum). • Maintain properly tuned equipment. • Limit the hours of operation of heavy equipment and/or the amount of equipment in use.
<p>Impact AIR-2a: Construction of the alternative roadway improvement scenarios would result in short-term construction-related air quality impacts. (Significant Impact)</p>	<p>The mitigation for impact AIR-2a is the same as the mitigation measures listed above for Impact AIR-2, above. (Less than Significant Impact with Program Mitigation)</p>
Agricultural Resource Impacts	
<p>Impact AGR-1: Construction of the planned Murphy Avenue/Mission View Drive connection would convert approximately 10 acres of Prime Farmland or Farmland of Statewide Importance that is currently farmed to a non-agricultural use. (Significant Impact)</p>	<p style="text-align: center;">Program Mitigation and Avoidance Measures</p> <p>The exact location and timing of specific roadway improvements for a Murphy Avenue/Mission View Drive extension are not known at this time, although given the extent of Prime Farmland in the vicinity of the planned roadway alignment on the Circulation Element map, improvements could impact Prime Farmland between Diana Avenue and Half Road in unincorporated Santa Clara County and/or land under Williamson Act Contract between Diana Avenue and Main Avenue. The transportation analysis completed for the Circulation Element Update indicates that the road would be needed after 2015 but before 2030.</p> <p>The Morgan Hill General Plan includes a number of policies for maintaining a viable agricultural industry that would be considered at the time of project design and environmental review of the Murphy Avenue/Mission View Drive Extension. Several are joint policies with the County of Santa Clara under the South County Joint Area Plan (SCJAP). These policies include, but are not limited to:</p> <p>Agriculture Policy 3a – Support programs and techniques, including conservation easements and purchase of development rights to encourage the retention of agricultural activities and to minimize conflicts in the transition from agriculture to urban uses.</p> <p>Agriculture Policy 3i – Protect agricultural lands from encroachment by incompatible land uses, including urban residential development (SCJAP 14.02).</p>

Given the general nature of these policies, more specific measures would be required to reduce or avoid impacts to Prime Farmland in this area.

Mitigation for the conversion of farmland to non-agricultural uses could consist of replacing the lost acreage on a one-to-one (1:1) basis. For every acre of farmland lost, new farmland could be created by converting suitable sites from non-agricultural to agricultural uses. This is analogous to the common practice of requiring the creation of new wetland habitat when existing wetland is impacted by a project. Currently, there is no mechanism, established practice, or program mitigation for removing development from sites with characteristics suitable for agriculture and reestablishing agricultural uses in perpetuity that can be used as implementable program mitigation for the Circulation Element.

As described in *Section 8.0 Alternatives*, measures that could avoid or reduce impacts to agricultural land could include an alignment or reduced scale (no roadway extension through Prime Farmland) alternative. The No Project Alternative (implementation of the existing Circulation Element) would not avoid impacts because the current planned alignment also extends through designated and active farmland and would impact a greater area of Prime Farmland. The conformance of the various alternatives with project objectives is discussed in detail in *Section 8.0 Alternatives*.

The CEQA Guidelines [Section 15126.2(b)] describes significant environmental effects which cannot be avoided as impacts that cannot be alleviated without imposing an alternative design. Possible impacts to agricultural resources associated with the construction of the Murphy Avenue extension, therefore, would be Significant and Unavoidable at this program level of review. **(Significant Unavoidable Impact)**

Measures to be Considered at the Time of Future Development of the Murphy Avenue Extension

- **Site Assessment:** As part of environmental review and project design for road extensions, possible locations of roadways that are currently mapped as “Prime Farmland” or “Farmland of Statewide Importance” by the California

Department of Conservation could be evaluated using the “Land Evaluation and Site Assessment” (LESA) Model to determine the loss of agricultural land that could occur due to these projects. The California LESA Model is a point-based approach for rating the relative importance for agricultural land resources based upon specific measurable features and is included in Appendix G of the CEQA Guidelines as a means to determine the value of land for agriculture. Half of the points in the LESA model are determined by a “Land Evaluation” which includes two factors (Land Capability Class and Storie Index ratings). Both of these ratings are based on the properties of the soils on a particular site. The second part of the evaluation is based on a “Site Assessment” that addresses the physical characteristics of a site (such as surrounding uses) and the availability of water for irrigation.

- Features, such as surrounding uses or unique parcel configuration, that reduce the viability of a property as productive farmland may also be taken into account.
- **Site/Project Design to Minimize Impacts to Prime Farmland and Farmland of Statewide Importance:** Project design could be used to minimize direct and indirect impacts to Prime Farmland and Farmland of Statewide Importance, to the extent feasible.
- **Avoidance of Conflicts with Existing Agricultural Operations:** Potential land use conflicts with agricultural operations, such as modifying access to fields for farm equipment, could be avoided.
- **Agricultural Land Conservation Easements**
The protection of other existing farmland, such as through the use of agricultural easements or outright purchase, would not be considered mitigation under CEQA because the net result of such actions would still be a net loss of farmland acreage. However, such actions do benefit agriculture by preventing the conversion of otherwise vulnerable farmland to non-agricultural uses. If a project that results in the loss of farmland contributes to the protection of other farmland where the threat or likelihood of

conversion to non-agricultural use is imminent, that fact can be taken into account when a Lead Agency adopts a statement of overriding considerations.

The City of Morgan Hill could: (1) acquire land outright, record an agricultural easement that limits uses of the land to agricultural purposes, and then could either sell or lease the property for farming by others; or (2) negotiate with one or more property owners to allow recordation of an agricultural easement. The property that is the subject of this type of easement might or might not actually be in active cultivation at the time of easement recordation, but would need to meet the following requirements:

- Be suitable for agricultural uses, including soil types that would meet the criteria to qualify as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland in the Farmland Mapping and Monitoring Program maintained by the California Department of Conservation, and be of a size that could viably support agricultural uses. If the property is in multiple parcels, the parcels should either be of sufficient size to meet the criteria of agricultural viability, or the parcels should be merged.
- The property must be at a location in Santa Clara County and/or Central California that would qualify it as threatened by the possibility of urban or suburban development. This could include farmland located: (1) immediately adjacent to an urban boundary or urban service area; and/or (2) in the path of, and reasonably proximate to, a clear pattern of recent urbanization or suburban development.
- The easement may be offered to the County of Santa Clara, other appropriate agencies, or a farmland trust and must limit the uses of the land to agriculture in perpetuity.

	<ul style="list-style-type: none"> As an alternative to providing individual agricultural easements, the City may also consider participation in an appropriate agricultural mitigation program established for the purpose of mitigating or avoiding loss of agricultural land.
<p>Impact AGR-2: Construction of the planned Murphy Avenue/Mission View Drive connection, depending on its location, could reduce the size of agricultural fields in a manner that would interfere with the long-term viability of agriculture in the immediate area. This would conflict with existing zoning and subdivision requirements for agricultural uses. Extension of the roadway also could conflict with several existing Williamson Act contracts. (Significant Impact)</p>	<p>The mitigation and avoidance measures for Impact AGR-2 are the same measures listed above for Impact AGR-1. (Significant Unavoidable Impact)</p>
<p>Cumulative Impacts</p>	
<p>Impact C-AGR-1: The proposed Circulation Element update would make a cumulatively considerable contribution to the significant cumulative loss of approximately 21 acres of designated Farmland.</p>	<p>Program Mitigation and Avoidance Measures</p> <p>The Morgan Hill General Plan includes a number of policies for maintaining a viable agricultural industry that would be considered at the time of project design and environmental review. Several are joint policies with the County of Santa Clara under the South County Joint Area Plan (SCJAP). These policies include, but are not limited to:</p> <p>Agriculture Policy 3a – Support programs and techniques, including conservation easements and purchase of development rights to encourage the retention of agricultural activities and to minimize conflicts in the transition from agriculture to urban uses.</p> <p>Agriculture Policy 3i – Protect agricultural lands from encroachment by incompatible land uses, including urban residential development (SCJAP 14.02).</p> <p>Given the general nature of these policies, more specific measures would be required to reduce or avoid the cumulative Farmland impacts.</p> <p>Mitigation for the conversion of farmland to non-</p>

agricultural uses could consist of replacing the lost acreage on a one-to-one (1:1) basis. For every acre of farmland lost, new farmland could be created by converting suitable sites from non-agricultural to agricultural uses. This is analogous to the common practice of requiring the creation of new wetland habitat when existing wetland is impacted by a project. Currently, there is no mechanism, established practice, or program mitigation for removing development from sites with characteristics suitable for agriculture and reestablishing agricultural uses in perpetuity that can be used as implementable program mitigation for the Circulation Element update.

As described in *Section 8.0 Alternatives*, measures that could avoid or reduce impacts to agricultural land could include an alignment or a no roadway connection through Prime Farmland alternative. The No Project Alternative (implementation of the existing Circulation Element) would not avoid impacts because the current planned alignment also extends through designated and active farmland and would impact a greater area of Farmland. The conformance of the various alternatives with project objectives is discussed in detail in *Section 8.0 Alternatives*.

The CEQA Guidelines [Section 15126.2(b)] describes significant environmental effects which cannot be avoided as impacts that cannot be alleviated without imposing an alternative design. Possible impacts to agricultural resources associated with the cumulative projects, therefore, would be significant and unavoidable at this program level of review.

Measures to be Considered at the Time of Future Development

- **Site Assessment:** As part of environmental review and project design for road extensions, possible locations of roadways that are currently mapped as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland (Farmland) by the California Department of Conservation could be evaluated using the “Land Evaluation and Site Assessment” (LESA) Model to determine the loss of agricultural land that could occur due to these projects. The California LESA Model is a point-based approach for rating the relative importance for agricultural land

resources based upon specific measurable features and is included in Appendix G of the CEQA Guidelines as a means to determine the value of land for agriculture. Half of the points in the LESA model are determined by a “Land Evaluation” which includes two factors (Land Capability Class and Storie Index ratings). Both of these ratings are based on the properties of the soils on a particular site. The second part of the evaluation is based on a “Site Assessment” that addresses the physical characteristics of a site (such as surrounding uses) and the availability of water for irrigation. Features, such as surrounding uses or unique parcel configuration, that reduce the viability of a property as productive farmland may also be taken into account.

- **Site/Project Design to Minimize Impacts to Farmland:** Project design could be used to minimize direct and indirect impacts to Farmland, to the extent feasible.
- **Avoidance of Conflicts with Existing Agricultural Operations:** Potential land use conflicts with agricultural operations, such as modifying access to fields for farm equipment, could be avoided.
- **Agricultural Land Conservation Easements**
The protection of other existing farmland, such as through the use of agricultural easements or outright purchase, would not be considered mitigation under CEQA because the net result of such actions would still be a net loss of farmland acreage. However, such actions do benefit agriculture by preventing the conversion of otherwise vulnerable farmland to non-agricultural uses. If a project that results in the loss of farmland contributes to the protection of other farmland where the threat or likelihood of conversion to non-agricultural use is imminent, that fact can be taken into account when a Lead Agency adopts a statement of overriding considerations.

The City of Morgan Hill could: (1) acquire land outright, record an agricultural easement that limits uses of the land to agricultural purposes, and then could either sell or lease the property for

	<p>farming by others; or (2) negotiate with one or more property owners to allow recordation of an agricultural easement. The property that is the subject of this type of easement might or might not actually be in active cultivation at the time of easement recordation, but would need to meet the following requirements:</p> <ul style="list-style-type: none"> ▪ Be suitable for agricultural uses, including soil types that would meet the criteria to qualify as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland in the Farmland Mapping and Monitoring Program maintained by the California Department of Conservation, and be of a size that could viably support agricultural uses. If the property is in multiple parcels, the parcels should either be of sufficient size to meet the criteria of agricultural viability, or the parcels should be merged. ▪ The property must be at a location in Santa Clara County and/or Central California that would qualify it as threatened by the possibility of urban or suburban development. This could include farmland located: (1) immediately adjacent to an urban boundary or urban service area; and/or (2) in the path of, and reasonably proximate to, a clear pattern of recent urbanization or suburban development. ▪ The easement may be offered to the County of Santa Clara, other appropriate agencies, or a farmland trust and must limit the uses of the land to agriculture in perpetuity. ▪ As an alternative to providing individual agricultural easements, the City may also consider participation in an appropriate agricultural mitigation program established for the purpose of mitigating or avoiding loss of agricultural land.
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SUMMARY OF NEXT STEPS IN DECISION-MAKING PROCESS

- August 4, 2009: **Release of Draft EIR for 45-Day Public Comment Period**
- August 11, 2009: **Planning Commission** Review of Transportation Studies & Proposed Circulation Element General Plan Amendment
7 PM, City Hall Council Chambers, 17555 Peak Avenue
- August 13, 2009 **South County Joint Planning Advisory Committee** Review of Transportation Studies & Proposed Circulation Element GPA
7 PM, City Hall Council Chambers, 17555 Peak Avenue
- August 29, 2009 **Community Meeting** for Review of Transportation Studies & Proposed Circulation Element General Plan Amendment
9:30 AM, Saturday, Community & Cultural Center, 17000 Monterey Rd
- August 31, 2009 **Community Meeting** for Review of Transportation Studies & Proposed Circulation Element General Plan Amendment
7:00 PM, Monday, Community & Cultural Center, 17000 Monterey Rd
- September 1, 2009: **Planning Commission & Public:** Receive comments on Draft EIR
7 PM, City Hall Council Chambers, 17555 Peak Avenue
- September 3, 2009 **Community Meeting** for Review of Transportation Studies & Proposed Circulation Element General Plan Amendment
7:00 PM, Thursday, Community & Cultural Center, 17000 Monterey Rd
- September 17, 2009: **Close of 45-Day Draft EIR Public Comment Period**
- **PREPARATION OF FINAL EIR RESPONSES TO COMMENTS**
- **PLANNING COMMISSION PUBLIC HEARING: RECOMMENDATION TO COUNCIL**
- **CITY COUNCIL PUBLIC HEARING: CERTIFY FINAL EIR AND TAKE ACTION ON PROPOSED CIRCULATION ELEMENT UPDATE**

NOTE: ALL DECISIONS ABOUT THE ROADWAY NETWORK MODIFICATIONS WILL BE MADE AS PART OF THE CIRCULATION ELEMENT AMENDMENT PROCESS. WHILE INFORMATION ABOUT THE POSSIBLE CIRCULATION CHANGES IS CONTAINED IN THE DRAFT EIR FOR THE DOWNTOWN SPECIFIC PLAN, THAT IS FOR INFORMATIONAL PURPOSES AND IT IS NOT PROPOSED THAT CIRCULATION CHANGES BE MADE AS PART OF THE DECISION-MAKING PROCESS FOR THE DOWNTOWN SPECIFIC PLAN.

FURTHER, CITY STAFF WILL RECOMMEND THAT NO DECISION ABOUT POSSIBLE MONTEREY ROAD NARROWING BE MADE UNTIL AFTER ALTERNATE STREETSCAPE PLANNING EFFORTS TAKE PLACE WHICH WOULD EVALUATE VARIOUS DESIGN POSSIBILITIES AND USES FOR THE PUBLIC RIGHT OF WAY UNDER BOTH 4-LANE AND 2-LANE ALTERNATIVES

EXPANDED DISCUSSION OF MORGAN HILL TRAVEL DEMAND MODEL AND VTA TRAVEL DEMAND MODEL & SOUTH COUNTY CIRCULATION STUDY

Relationship to South County Circulation Study and VTA Travel Demand Model. VTA and other South County agencies started work on the South County Circulation Study (SCCS) in 2005, and the final Study was published in April 2008. As stated in the Executive Summary of the SCCS: “The South County Circulation Study (Study) is a high-level planning study that evaluates existing and projected future conditions related to land use changes and travel patterns in the Southern part of Santa Clara County. The key purpose of the study is to identify transportation improvements that improve travel in the South County area. The results of the study will be taken into consideration for the next update of the Santa Clara County countywide transportation plan (VTP 2025).”

The SCCS was initiated after the “Southern Gateway Transportation and Land Use Study (Southern Gateway Study). The Gateway Study identified potential gateway highway improvements to accommodate traffic growth, and the improvements focused on travel corridors into Santa Clara County from neighboring counties to the east and south. The SCCS provides an assessment of the transportation needs of the South County, to meet demands associated with land use growth taking place beyond Santa Clara County as well as the local land use growth. The SCCS was done in a timeframe that generally paralleled the City of San Jose’s Coyote Valley Specific Plan (CVSP) effort, which enabled some level of “cross-checking” and similar assumptions for the CVSP traffic study.

SCCS Projections Based on ABAG Projections 2003; Exception was for Coyote Valley. For the SCCS, it was decided that the primary land use projections would be those contained in ABAG Projections 2003, for the year 2030. However, in the SCCS, it was also decided to vary the projection for Coyote Valley, so that the “ABAG Projections 2003 Control Scenario” would reflect San Jose’s recommended 10,000 dwelling units and 20,000 jobs in Coyote Valley by 2030. This assumption differed from earlier assumptions in ABAG Projections documents and VTA traffic models, and was based on the draft proposed Coyote Valley Specific Plan rather than the approved Coyote Valley Research Park. For ABAG Projections 2003, raw data showed that 5,910 households and 24,230 jobs had been previously assumed. For the VTP 2030 Plan and SVRTC BART extension model forecasts, 14,879 households and 14,694 jobs had been assumed in Coyote Valley.

Subsequent to completion of the South County Circulation Study the Coyote Valley Specific Plan effort ceased. Based upon discussions with city of San Jose and VTA staff, the Morgan Hill traffic model (the second, refined run of the model) reflects a projection for Coyote Valley based on the approved CV Research Park. Otherwise, regional assumptions were consistent with SCCS and VTA travel demand model.

Current Morgan Hill 2009 Projections. The current Morgan Hill 2009 Projections are intended to reflect more of a market-based projection, more in line with ABAG 2003 and ABAG 2009 Projections than the ABAG 2005 and 2007 Projections. For Morgan Hill’s Model, in assigning projected development to the GIS Traffic Analysis Zones, the non-residential development and job growth in the office/industrial sector was first primarily assigned to existing vacant square footage and then assumed to create new buildings. This is a different approach than used in the SCCS, but is more accurate. It should be noted that the region had very high office/industrial vacancy rates in 2006 (over 20% in Morgan Hill with comparable rates elsewhere) and the “absorption of vacant space” was not reflected in the employment growth projection numbers by Traffic Analysis Zone (TAZ) that were provided by

Morgan Hill to VTA for use in the SCCS, and other jurisdictions probably also did not adjust for this factor.

For both the residential and non-residential projections, there was an emphasis on occupying vacant buildings and approved projects, and then on absorbing available lands west of U.S. 101 prior to initiating new developments east of U.S. 101.

While the ABAG Projections 2005 and 2007 documents both state that “The development of a high-density town center with a mix of residential and commercial buildings oriented around the City of Morgan Hill’s Caltrain station will create a substantial mix of household and employment growth in the city’s downtown”; the projections were not on the order of current City projections for Downtown Morgan Hill to accommodate 1,200 new housing units. Other areas of Morgan Hill have also been recently rezoned for mixed use allowing from 18-20 units per acres, such as the portion of Monterey Road between Dunne Avenue and Tennant Avenue rezoned to a new CL-R Light Commercial-Residential mixed use zoning district. The City’s most recent RDCS competition resulted in an award (Feb. ’09) to the first 60-unit phase of a market rate rental project, and the City will continue to hold competitions for affordable housing projects and downtown projects. Several developers are interested in developing senior housing, and the City’s Draft Housing Element supports holding competitions and making accommodations for senior housing projects. The senior, rental and downtown housing unit types tend to reflect a lower persons per household factor than standard open market housing unit types.

The ABAG Projections 2003 City Control Totals used in the South County Circulation Study projected an increase of only 3,660 households between the year 2000 and 2030 (3,804 on TAZ charts), which Morgan Hill believes is too conservative even under an assumption that the RDCS growth control system continues. That same ABAG Projections reflected an increase of 124,220 households within the City of San Jose, 10,200 in the unincorporated area, and 5,770 in Gilroy for the 2000 – 2030 period.

For the above reasons, the City of Morgan Hill is projecting a greater number of units and a higher population than presently projected by ABAG. The City is submitting this information to ABAG for use in Projections 2009, and is proposing a 2030 Population of 55,400 for the Morgan Hill jurisdiction in 18,560 housing units, which are greater than existing ABAG Projections for “Jurisdiction”.

For Morgan Hill, the “ABAG Control Projections 2003” scenario reflected 3804 new housing units and 11,940 new jobs occurring from 2000 to 2030. Morgan Hill Projections 2009 differ as shown below:

Amount that Morgan Hill’s Projections Exceed ABAG Projections		
	Population	Housing Units
Projections 2003 (<i>used for SCCS</i>):	+ 11,200 persons *	+ 4,060
Projections 2005:	+ 11,500 persons *	+ 4,260
Projections 2007:	+ 8,600 persons *	+ 3,610
Projections 2009*:	N.A.	N.A.

** Projections 2009 has no “jurisdiction” number yet published. Note that Morgan Hill’s “jurisdiction” 2030 numbers include certain areas that ABAG considered “subregional”, such as Holiday Lake Estates 1 and other County islands now included in Morgan Hill. The “55,600 population” shown in certain other documents would also reflect growth of additional 200 people in areas of Morgan Hill’s sphere that would not be near but not in urban service area boundary in 2030.*

The City of Morgan Hill’s residential projections used in the traffic model reflect the city’s projected 55,396 (“55,400”) population figure and 18,559 (“18,560”) dwelling units by 2030, rather than ABAG’s projections, in order to reflect the city’s more aggressive assumptions about downtown development based on the new DT Specific Plan, extension of the Redevelopment Agency and its emphasis on downtown redevelopment and infrastructure improvements, and the proposed ballot measure which provides exemptions from the Residential Development Control System (RDCS) for downtown dwelling units.

For the City of Morgan Hill Projections used on Morgan Hill Traffic Model and for other planning purposes, the total projected number of new jobs between 2007 and 2030 is 10,131 jobs, which is projected to occur within the city limits and urban growth boundary. Adding 10,131 jobs to the 13,508 jurisdiction base number of jobs in 2007 means a **projected 2030 total jobs of 23,639 in jurisdiction**. Adding 10,131 jobs to the 14,428 sphere base number of jobs in 2007 means a **projected 2030 total jobs of 24,559 in Sphere**. These projections are within the ranges projected in the ABAG Projections scenarios. A comparison of Morgan Hill Projections 2009 against other ABAG Projections is presented below, in the format of comparing Total Jobs and Total Housing Units:

Year 2030 (city; Morgan Hill 2009 Projections):	23,640 jobs / 18,559 units =	1.274
Year 2030 (sphere jobs; Morgan Hill 2009 Projections):	24,560 jobs / 18,559 units =	1.323
Year 2030 (city; Morgan Hill SCCS ABAG 2003 Control):	25,020 jobs / 14,904 units =	1.679
Year 2030 (city; ABAG Projections 2003):	25,020 jobs / 14,500 units =	1.726
Year 2030 (sphere; ABAG Projections 2003):	29,920 jobs / 16,340 units =	1.831
Year 2030 (city; ABAG Projections 2005):	25,740 jobs / 14,300 units =	1.800
Year 2030 (sphere; ABAG Projections 2005):	27,750 jobs / 16,140 units =	1.708
Year 2030 (city; ABAG Projections 2007):	22,130 jobs / 14,950 units =	1.480
Year 2030 (sphere; ABAG Projections 2007):	23,960 jobs / 16,790 units =	1.427
Year 2030 (sphere; ABAG Projections 2009 Third Scenario):	23,950 jobs / 16,950 units =	1.413

The current Morgan Hill projections used in the Morgan Hill traffic model were developed using the Geographic Information Systems (GIS) tool, which allows for a much more accurate assessment of the development potential of vacant and underutilized lands. The projections reflect a greater degree of analysis of the housing unit and job types that are expected in Morgan Hill, recognizing the goals of the Downtown Specific Plan, anticipated housing market and economic conditions, and Morgan Hill’s role in the region (which generally lags behind San Jose and Central Silicon Valley, and generally reflects a lower employee density pattern). Morgan Hill is expected to increase its ratio of jobs to housing units over time, to reach from 1.274 to 1.323 jobs per housing unit in 2030, which is more in keeping with past ABAG projections but adjusted for city staff’s more detailed knowledge of the city’s Residential Development Control System, vacant and underutilized land inventory, and Downtown Plan and General Plan goals. Morgan Hill’s General Plan calls for a “jobs/housing balance”, and Morgan Hill’s currently projected jobs per household is considered much more realistic than previous city projections used in the South County Circulation Study, which ranged from 1.7 to 2.3 jobs per household.

ABAG Comment on Morgan Hill Projections 2009. ABAG reviewed Morgan Hill’s projections and noted that the City’s numbers show housing units, while ABAG forecasts show households. To calculate housing units from households, ABAG adds a three percent vacancy rate to households (occupied housing units). Therefore, the current ABAG Projections 2009 forecast for Morgan Hill

shows 17,500 units in 2030 and 18,300 units in 2035, in contrast to Morgan Hill's projection of 18,560 units in 2030. For population, Morgan Hill estimates 55,600 in 2030, while the ABAG 2009 Projection is for 51,600 in 2030 and 53,700 for 2035. ABAG reports household size at very close to 3.0 for both 2030 and 2035. ABAG sent a letter to the City dated June 26, 2009 noting that "Morgan Hill's projections do not differ that much from ABAG Projections 2009", and that Morgan Hill will be able to work with ABAG in 2010 to prepare the next round of forecasts. Thus, there will be an opportunity for Morgan Hill to reflect in regional forecasts the greater number of housing units, and some smaller household sizes, in the next ABAG Projections.

It is important to recognize the difference in projection methodology used by City of Morgan Hill staff for the 2006 South County Circulation Study data, and for the current Morgan Hill 2009 Projections. In 2005, the staffperson preparing the projections data for SCCS assumed that the average annual level of growth that had occurred from 1990 to 2005 would continue into the future to 2030. However, that timeframe included an unprecedented level of non-residential development in Morgan Hill, which is now thought to be unsustainable through 2030, especially if the Morgan Hill residential growth control system continues into the future, which is expected.

Also, the factors used to convert square footage of development to jobs were different for the VTA SCCS model. The following conversion factors were used in the SCCS (provided by George Naylor of VTA). The urban retail ratio was applied to downtown, and the suburban big box retail was applied to the TAZ that includes the Cochrane Commons shopping center. Jobs from the various categories were then assigned to TAZ's according to the GP land use designations.

2006 Employee Density Factors used in SCCS:

Industrial (manufacturing jobs):	1.0 job/450 sf
Medical (service jobs):	1.0 job/250 sf
Non-retail (broken out into other jobs and/or service jobs):	1.0 job/250 sf
R&D (broken out into manufacturing jobs and or service jobs – suggested mix of half manufacturing and half business service):	1.0 job/435 sf
Retail (urban):	1.0 job/500 sf
Retail (suburban/big box):	1.0 job/1000 sf.

The above employee density factors are now believed to be too dense for Morgan Hill. The Fehr & Peers analysis revealed the following more-appropriate factors for Morgan Hill, which were then used for the city's current projections:

2007/2009 Employee Density Factors used in Morgan Hill Traffic Model and Growth Projections:

Industrial and R&D:	2.5 jobs/1000 sf
Medical Office:	4.0 jobs/1000 sf
Office:	3.0 jobs/1000 sf
Service Commercial:	3.0 jobs/1000 sf
Warehouse:	1.0 jobs/1000 sf
Retail:	2.0 jobs/1000 sf

SCCS "General Plan Buildout". As recalled by the staffperson, the "General Plan Buildout" numbers were based on additional development to also include lands outside of the current Urban Growth Boundary (which is intended to allow for about 20 years worth of growth). It should be recognized that the City of Morgan Hill has lands within its Sphere that are designated "Rural County", which generally do not yet have an urban land use designation if they are outside of the UGB. The UGB was updated in 2001 with the adoption of the City's most recent General Plan, therefore "General Plan Buildout" is a difficult concept for Morgan Hill to attempt to quantify.